



Highfields State
Secondary College

Semester 1, 2021 Course Overview

Year level: 7

Faculty:

Maths

Subject: Mathematics

Course Outline

Mathematics curriculum is built around the three content strands: Number and Algebra, Measurement and Geometry, and Statistics and Probability. The proficiency strands of Understanding, Fluency, Problem Solving and Reasoning are an integral part of content across the curriculum. The proficiencies reinforce the significance of working mathematically within the content and describe how the content is explored or developed and further provide the language to build in the developmental aspects of the learning of mathematics.

Term 1	Term 2	
Unit 1: WHOLE NUMBERS; NUMBER PROPERTIES and PATTERNS; GEOMETRY	Unit 2: FRACTIONS and PERCENTAGES; DECIMALS; ALGEBRA	
<p>In this unit, students will make the connections between whole numbers and index notation and the relationship between perfect squares and square roots. They solve simple numerical problems involving angles formed by a transversal crossing two parallel lines. They assign ordered pairs to given points on the Cartesian plane. . Students classify triangles and quadrilaterals. They name the types of angles formed by a transversal crossing parallel line.</p> <p>NUMBER AND ALGEBRA Number and Place Value</p> <ul style="list-style-type: none"> Investigate index notation and represent whole numbers as products of powers of prime numbers (ACMNA149) Investigate and use square roots of perfect square numbers (ACMNA150) Apply the associative, commutative and distributive laws to aid mental and written computation (ACMNA151) <p>Linear and Non-Linear Relationships</p> <ul style="list-style-type: none"> Given coordinates, plot points on the Cartesian plane, and find coordinates for a given point (ACMNA178) Investigate, interpret and analyse graphs from authentic data (ACMNA180) <p>MEASUREMENT AND GEOMETRY Geometric Reasoning</p> <ul style="list-style-type: none"> Identify corresponding, alternate and cointerior angles when two parallel straight lines are crossed by a transversal (ACMMG163) Investigate conditions for two lines to be parallel and solve simple numerical problems using reasoning (ACMMG164) 	<p>In this unit, Students will solve problems involving percentages and all four operations with fractions and decimals. They compare the cost of items to make financial decisions. Students represent numbers using variables. They connect the laws and properties for numbers to algebra. Students use fractions, decimals and percentages, and their equivalences. They express one quantity as a fraction or percentage of another. Students solve simple linear equations and evaluate algebraic expressions after numerical substitution.</p> <p>NUMBER AND ALGEBRA Real Numbers</p> <ul style="list-style-type: none"> Compare fractions using equivalence. Locate and represent fractions and mixed numerals on a number line (ACMNA152) Solve problems involving addition and subtraction of fractions, including those with unrelated denominators (ACMNA153) Multiply and divide fractions and decimals using efficient written strategies and digital technologies (ACMNA154) Express one quantity as a fraction of another with and without the use of digital technologies (ACMNA155) Round decimals to a specified number of decimal places (ACMNA156) Connect fractions, decimals and percentages and carry out simple conversions (ACMNA157) Find percentages of quantities and express one quantity as a percentage of another, with and without digital technologies. (ACMNA158) Recognise and solve problems involving simple ratios. (ACMNA173) <p>Money and Financial Mathematics</p> <ul style="list-style-type: none"> Investigate and calculate 'best buys', with and without digital technologies (ACMNA174) <p>Patterns and Algebra</p> <ul style="list-style-type: none"> Introduce the concept of variables as a way of representing numbers using letters (ACMNA175) Create algebraic expressions and evaluate them by substituting a given value for each variable (ACMNA176) Extend and apply the laws and properties of arithmetic to algebraic terms and expressions (ACMNA177) 	
Assessment	Assessment	
Examination 1 Multiple Choice Short Response Exam Written Up to 70 minutes	PSMT 2 Report Written Report (digital) Length: 400-600 words	Examination 3 Multiple Choice Short Response Exam Written Up to 70 minutes